

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions and listings of claims in the application:

1. (Currently Amended) A computer-readable medium encoded with a computer program comprising instructions that, when executed, operate to cause a computer to perform operations comprising:

providing a first workflow associated with only a first party, the first workflow including a first plurality of actual tasks;

generating a first workflow view representing an abstracted first workflow different from and based on the first workflow, the first workflow view including a first virtual task as an abstraction of the first plurality of actual tasks, and expressing the first virtual task as a first vertex within a first workflow view matrix;

providing a second workflow associated with only a second party, the second workflow including a second plurality of actual tasks;

generating a second workflow view representing an abstracted second workflow different from and based on the second workflow, the second workflow view including a second virtual task as an abstraction of the second plurality of actual tasks, and expressing the second virtual task as a second vertex within a second workflow view matrix;

generating a third workflow view based on the second workflow and including a third virtual task as an abstraction of the second plurality of actual tasks, the third virtual task being different than the second virtual task;

generating a first coalition workflow view referencing the first workflow view and the second workflow view to provide a first collaborative workflow, the first collaborative workflow specifying tasks that the first party and the second party are required to perform; and

generating a second coalition workflow view referencing the third workflow view to provide a second collaborative workflow view, the second collaborative workflow specifying tasks that the second party is required to perform

wherein generating the first workflow view further comprises:

receiving a first user input selecting one the first plurality of actual tasks that the user intends to be maintained as private;

when the selected actual task comprises a type split task or a type activity task, traversing the first workflow in two directions to find two type join tasks or two adjacent tasks, respectively, one task in each direction;

identifying a respective path from the selected actual task to each of the type join tasks or the adjacent tasks;

providing one or more of the paths as possible v-structures to the user for selection;

receiving a second user input selecting one of the paths, the selected path including the first plurality of actual tasks.

2. (Previously Presented) The computer-readable medium of claim 1 wherein the first workflow and the second workflow are private to the first and second parties, respectively.

3. (Cancelled)

4. (Cancelled)

5. (Previously Presented) The computer-readable medium of claim 1 wherein the operations further comprise providing a first set of dependencies between the first virtual task and the first plurality of actual tasks, and a second set of dependencies between the second virtual task and the second plurality of actual tasks, wherein the first and second set of dependencies are selected so as to maintain an order of operation of the first plurality of actual tasks relative to the second plurality of actual tasks.

6. (Previously Presented) The computer-readable medium of claim 1 wherein a first virtual execution state of the first virtual task corresponds to a first actual execution state of the first plurality of actual tasks.

7. (Previously Presented) The computer-readable medium of claim 6 wherein an actual state transition of the first actual execution state is reflected in a virtual state transition of the first virtual execution state.

8. (Previously Presented) The computer-readable medium of claim 6 wherein the operations further comprise forwarding a message from the second party concerning the first virtual task to an active task within the first plurality of actual tasks via the first virtual task, based on the first actual execution state.

9. (Previously Presented) The computer-readable medium of claim 1 wherein the second workflow view comprises a third virtual task and a fourth virtual task corresponding to a third actual task and a fourth actual task, respectively, of the second workflow.

10. (Previously Presented) The computer-readable medium of claim 9 wherein the tasks within the coalition workflow comprise the first virtual task, the second virtual task, the third virtual task, and the fourth virtual task.

11. (Previously Presented) The computer-readable medium of claim 10 wherein the tasks within the first collaborative workflow further comprise a synchronizing task operable to preserve an order of execution of the first virtual task, the second virtual task, the third virtual task, and the fourth virtual task.

12. (Previously Presented) The computer-readable medium of claim 11 wherein the synchronizing task relates a finished execution state of the second virtual task to a beginning execution state of the third virtual task.

13. (Previously Presented) The computer-readable medium of claim 1 wherein the first collaborative workflow is implemented by communications between the first party and the second party regarding the first workflow view and the second workflow view.

14. (Previously Presented) The computer-readable medium of claim 1 wherein the first collaborative workflow is implemented by a third-party mediator facilitating communications between the first party and the second party.

15. (Cancelled)

16. (Currently Amended) A method comprising:

storing a first workflow and a second workflow in a computer-readable storage medium, the first workflow being associated with only a first party and including a first plurality of actual tasks, and the second workflow being associated with only a second party and including a second plurality of actual tasks;

accessing the first and second workflows from the computer-readable storage medium;

generating, using one or more computer processors, a first workflow view representing an abstracted first workflow different from and based on the first workflow, the first workflow view including a first virtual task as an abstraction of the first plurality of actual tasks;

expressing the first virtual task as a first vertex within a first workflow view matrix;

generating a second workflow view representing an abstracted second workflow different from and based on the second workflow, the second workflow view including a second virtual task as an abstraction of the second plurality of actual tasks;

expressing the second virtual task as a second vertex within a second workflow view matrix;

generating a third workflow view based on the second workflow and including a third virtual task as an abstraction of the second plurality of actual tasks, the third virtual task being different than the second virtual task;

including the first workflow view and the second workflow view within a first coalition workflow view to provide a first collaborative workflow, the first collaborative workflow specifying tasks that the first party and the second party are required to perform; and

including the third workflow view within a second coalition workflow view to provide a second collaborative workflow view, the second collaborative workflow specifying tasks that the second party is required to perform

wherein generating the first workflow view further comprises:

receiving a first user input selecting one the first plurality of actual tasks that the user intends to be maintained as private;

when the selected actual task comprises a type split task or a type activity task, traversing the first workflow in two directions to find two type join tasks or two adjacent tasks, respectively, one task in each direction;

identifying a respective path from the selected actual task to each of the type join tasks or the adjacent tasks;

providing one or more of the paths as possible v-structures to the user for selection;

receiving a second user input selecting one of the paths, the selected path including the first plurality of actual tasks.

17. (Original) The method of claim 16 wherein the first workflow and the second workflow are private to the first and second parties, respectively.

18. (Cancelled)

19. (Cancelled)

20. (Previously Presented) The method of claim 16 further comprising:

constructing a first set of dependencies between the first virtual task and the first plurality of actual tasks; and

constructing a second set of dependencies between the second virtual task and the second plurality of actual tasks,

wherein the first and second set of dependencies are selected so as to maintain an order of operation of the first plurality of actual tasks relative to the second plurality of actual tasks.

21. (Previously Presented) The method of claim 16 further comprising associating a first virtual execution state of the first virtual task with a first actual execution state of the first plurality of actual tasks.
22. (Original) The method of claim 21 further comprising reflecting an actual state transition of the first actual execution state in a virtual state transition of the first virtual execution state.
23. (Original) The method of claim 21 further comprising forwarding a message from the second party concerning the first virtual task to an active task within the first plurality of actual tasks via the first virtual task, based on the first actual execution state.
24. (Previously Presented) The method of claim 16 further comprising associating a third virtual task and a fourth virtual task of the second workflow view with a third actual task and a fourth actual task, respectively, of the second workflow.
25. (Previously Presented) The method of claim 24, wherein including the first workflow view and the second workflow view within a first coalition workflow view comprises including the first virtual task, the second virtual task, the third virtual task, and the fourth virtual task within the first coalition workflow as the tasks within the first coalition workflow.
26. (Previously Presented) The method of claim 25 wherein including the first workflow view and the second workflow view within a first coalition workflow view comprises including a synchronizing task operable to preserve an order of execution of the first virtual task, the second virtual task, the third virtual task, and the fourth virtual task within the first coalition workflow as the tasks within the coalition workflow.
27. (Original) The method of claim 26 wherein including a synchronizing task comprises relating a finished execution state of the second virtual task to a beginning execution state of the third virtual task.

28. (Previously Presented) The method of claim 16 further comprising communicating between the first party and the second party regarding the first workflow view and the second workflow view, to thereby implement the first collaborative workflow.
29. (Previously Presented) The method of claim 16 wherein the first collaborative workflow is implemented by a third-party mediator facilitating communications between the first party and the second party.
30. (Cancelled)
31. (Currently Amended) A system comprising:
a computer-readable storage medium encoded with a computer program comprising instructions that, when executed, operate to cause a computer to perform operations comprising:
providing a first workflow that is associated with only a first party, the first workflow including a first plurality of actual tasks;
generating a first virtual workflow as an abstracted first workflow different from and based on the first workflow, the first workflow view including a first virtual task as an abstraction of the first plurality of actual tasks and expressing the first virtual task as a first vertex within a first workflow view matrix;
providing a second workflow associated with only a second party, the second workflow including a second plurality of actual tasks;
generating a second workflow view representing an abstracted second workflow different from and based on the second workflow, the second workflow view including a second virtual task as an abstraction of the second plurality of actual tasks and expressing the second virtual task as a second vertex within a second workflow view matrix;
generating a third workflow view based on the second workflow and including a third virtual task as an abstraction of the second plurality of actual tasks, the third virtual task being different than the second virtual task;

generating a first coalition workflow view referencing the first workflow view and the second workflow view to provide a first collaborative workflow, the collaborative workflow specifying tasks that the first party and the second party are required to perform; and

generating a second coalition workflow view referencing the third workflow view to provide a second collaborative workflow view, the second collaborative workflow specifying tasks that the second party is required to perform

wherein generating the first workflow view further comprises:

receiving a first user input selecting one the first plurality of actual tasks that the user intends to be maintained as private;

when the selected actual task comprises a type split task or a type activity task, traversing the first workflow in two directions to find two type join tasks or two adjacent tasks, respectively, one task in each direction;

identifying a respective path from the selected actual task to each of the type join tasks or the adjacent tasks;

providing one or more of the paths as possible v-structures to the user for selection;

receiving a second user input selecting one of the paths, the selected path including the first plurality of actual tasks.

32. (Cancelled)

33. (Previously Presented) The system of claim 31 wherein the operations further comprise associating a virtual execution state of the first virtual task with respective execution states of the first plurality of actual tasks.

34. (Previously Presented) The system of claim 33 further comprising a monitor operable to track the virtual execution state, and the respective execution states of the first plurality of actual tasks.

35. (Original) The system of claim 31 further comprising a database for storing the first workflow, instances of the first workflow, the first virtual workflow, and instances of the first virtual workflow.

36. (Previously Presented) The system of claim 31 further comprising a gateway operable to route messages to and from the second party, the messages concerning the first virtual workflow and the second workflow.

37. (Original) The system of claim 31 further comprising a mediator operable to mediate interactions between the first virtual workflow and the second workflow, the mediator comprising:

- a security manager operable to receive messages regarding the first virtual workflow for decryption;

- a database operable to store the first virtual workflow, the second workflow, instances of the first virtual workflow, and instances of the second workflow; and

- a monitor operable to track execution states of the first virtual workflow and the second workflow.

38. (Previously Presented) The computer-readable medium of claim 1 wherein the first plurality of actual tasks is represented as a respective first plurality of vertices within a first workflow matrix.

39. (Previously Presented) The computer-readable medium of claim 38 wherein the first vertex of the first workflow view matrix is an abstraction of the first plurality of vertices within the first workflow matrix.

40. (Previously Presented) The computer-readable medium of claim 1 wherein the second plurality of actual tasks is represented as a respective second plurality of vertices within a third workflow matrix.

41. (Previously Presented) The method of claim 16 wherein the first plurality of actual tasks is represented as a respective first plurality of vertices within a first workflow matrix.

42. (Previously Presented) The method of claim 41 wherein the first vertex of the first workflow view matrix is an abstraction of the first plurality of vertices within the first workflow matrix.

43. (Previously Presented) The method of claim 16 wherein the second plurality of actual tasks is represented as a respective second plurality of vertices within a third workflow matrix.

44. (Previously Presented) The system of claim 31 wherein the first plurality of actual tasks is represented as a respective first plurality of vertices within a first workflow matrix, and wherein the first vertex of the first workflow view matrix is an abstraction of the first plurality of vertices within the first workflow matrix.